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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,589	05/29/2001	Shinpei Oono	DAIN:312D	4628

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EXAMINER

HECKENBERG JR, DONALD H

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 06/24/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/865,589

Applicant(s)

OONO ET AL.

Examiner

Donald Heckenberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 08/429,218.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on January 23, 2003 has been entered.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno (U.S. Pat. No. 5,415,536; previously of record) in view of Nied et al. (U.S. Pat. No. 5,290,490; previously of record).

Ohno discloses an apparatus for forming a pattern onto an article during an injection molding. The apparatus comprises a feed means that feeds the pattern-bearing film (X) to a molding position where a male mold (1) and a female mold (2) are opposed (see figure 1). A heating board (9) is provided that heats the

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pattern-bearing film so as to soften the film. The heating board has a heating surface that is movable into and away from a space between the male mold and the female mold (as shown in figure 1). A transfer means transfers the pattern-bearing film to an internal surface of the female mold so as to contact the film with the internal surface (as shown in figure 7). The apparatus is further provided with closing means that causes the male mold and the female mold with the film to approach each other and form a closed molding cavity (as shown in figure 15). Also provided by Ohno is a resin injecting device (5) that injects molten resin into the cavity to form a molded article to adhere the pattern-bearing film to the surface of the article. Ohno further discloses a heating wire (24) within the heating board to generate heat, and the heating board to be arranged in a vertical direction (see figure 1).

Ohno does not disclose the heating board being divided into a plurality of independently controlled heating blocks with the blocks being arranged in one line so that one heating block is disposed adjacently above another heating block.

Nied discloses an apparatus for the differential heating and thermoforming of a polymer sheet, wherein the heater is divided into a plurality of independently controlled segments (24). Nied notes that this is advantageous in that it allows for

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differentially heating different segments of the polymer sheet (see column 2, lines 39-50, column 4, lines 26-29 & 36-41, and column 6, lines 13-16).

It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to have modified the apparatus of Ohno as such to have the heating board divided into a plurality of heating blocks because this would have allowed for the differential heating of different areas of the film as suggested by Nied.

By dividing the heating board of Ohno into a plurality of blocks as suggested by Nied, the resulting board would thereby have heating blocks arranged in a vertical direction with one heating block disposed adjacently above another block (note, Ohno teaches the heating board to be placed in a vertical direction as shown in figure 1).

Further, the resulting arrangement of the combination of Ohno and Nied would be as such that the heating board would be formed "in a single line." Both Ohno and Nied disclose the board itself as a singular object, which constitutes a single line (see figure 3 of Ohno, and figures 1-2 of Nied).

The resulting arrangement of Ohno and Nied further renders obvious the heating blocks arranged in a vertical direction "in one line." Nied shows the blocks to be arranged in lines (see

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figure 1). Thus, in incorporating the multiple heating block arrangement of Nied into the apparatus of Ohno, the apparatus would have at least one line of heating blocks. Claim 7 of the instant application uses open ended "comprising" terminology. See MPEP § 2111.03. Therefore, any additional lines of heating blocks disclosed by Nied incorporated into the apparatus of Ohno would not be outside the scope of claim 7.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohno and Nied as applied to claim 7 above, and further in view of Chapman (U.S. Pat. No. 5,423,669; previously of record).

Ohno and Nied disclose the apparatus as described above. Ohno and Nied do not disclose the use of temperature sensors to monitor the temperature of each heating block.

Chapman discloses an apparatus for thermoforming film including a heating unit (38) which has a temperature sensor for monitoring the heat imparted to the film and to adjust the heater according based on detected temperature, thereby providing a temperature controlling system for the apparatus (column 4, lines 19-30).

It would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to have modified the

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apparatus of Ohno and Nied as such to have provided the heating blocks with a temperature sensor because this would have allowed for the monitoring of the heat imparted to the film and thereby better control the heating as suggested by Chapman. Given the teaching of Ohno and Nied for the differential heating of different areas using independent heating blocks, it further would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to have used temperature sensors at each block to monitor the heat imparted to the film at each independent block because the temperature to be generated at each block is different. Note that such a modification requires the duplication of a known part, a temperature sensor, for the multiplied effect of monitoring the temperature at different points. Generally, the duplication of a known part for a multiplied effect has no patentable significance unless it can be shown that there is a new and unexpected result. See In re Harza, 274 F.2d 669, 124 USPQ 378 (Cust. & Pat. App. 1960); St. Regis Paper Co. v. Bemis Co., 549 F.2d 833, 193 USPQ 8 (7th Cir. 1977).

7. Applicants' arguments filed January 28, 2003 have been fully considered but they are not persuasive.



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Applicants assert that there is no proper motivation or suggestion to have the heating board arrangement recited in claim 7. Applicants argue that the multi-element electrode arrangement disclosed by Nied is a necessity to accomplish the objects of that invention, and that to replace the multi-element electrode arrangement with a vertical direction one-line arrangement of heating blocks would eliminate the ability differentially heat and thermoform the polymer. Applicants conclude therefore that all of the elements of claim 7 would not be obvious to one of ordinary skill in the art.

As discussed above, there is no limitation in claim 7 reciting that the heating blocks form only a single line. Rather, claim 7 recites that the "heating blocks are arranged in a vertical direction in one line," with no limitation to the effect of eliminating the possibility of other lines of heating blocks. As the claim uses open-ended "comprising" terminology, the addition of more lines of heating blocks is not precluded from the claim.

Assuming arguendo that claim 7 was limited to only a single line of heating blocks, this limitation would not necessarily destroy the functionality of heating blocks disclosed by Nied. A single line of heating blocks would still allow for the differential heating of polymer sheet. While a

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single line would not allow for as much control of the area of heating as is possible with the arrangement disclosed by Nied, the single line arrangement would still allow for differential heating of zones of the polymer sheet adjacent to one another in an upstream or down stream direction. Thus, depending of the degree of differential heating required for a particular application, a single line of heating blocks incorporated into Ohno would still be obvious to one of ordinary skill in the art. Since the modification is of the Ohno reference, rather than the Nied reference which is cited as merely teaching the concept of differential heating by using multiple heating blocks, there would be no destroying of functionality as Applicants argue, and the motivation to modify the features of Ohno to achieve differential heating would still be present to one of ordinary skill in the art.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (703) 308-6371. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be

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reached at (703) 308-0457. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for responses to non-final action, and 703-872-9311 for responses to final actions. The unofficial fax phone number is (703) 305-3602.



Donald Heckenberg  
June 23, 2003



**JAMES P. MACKEY**  
**PRIMARY EXAMINER**  
6/23/03